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(54) Title: IMPROVED CROSSLINKED ENZYME AGGREGATES

(57) Abstract: Described is a method for the preparation of crosslinked enzyme aggregates, comprising enzyme molecules being associated with an enzyme activity-enhancing agent, the enzyme activity-enhancing agent interacting with the said enzyme molecules, comprising the steps of: A - providing a plurality of enzyme molecules, B - aggregating the enzyme molecules in a liquid medium, by means of addition of a precipitating agent, C - crosslinking the aggregated enzyme molecules to one another by providing a crosslinking agent in the liquid medium, the method comprising, during or between steps A, B or C, the step of adding an enzyme activity-enhancing agent and allowing the enzyme molecules to become and to remain associated with the enzyme activity-enhancing agent. The resulting CLEA are advantageous due to increase in activity, their suitability for recycle, enhanced stability and low requirements for additional enzyme activity-enhancing agent. Further, crosslinked enzyme aggregates are described, comprising an enzyme activity-enhancing agent associated therewith.

# INTERNATIONAL SEARCH REPORT

PO 03/12794

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N9/96 C12N11/00 C12N9/04 C12N9/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>LOPEZ-SERRANO P ET AL: "Cross-linked enzyme aggregates with enhanced activity: Application to lipases."  BIOTECHNOLOGY LETTERS,  vol. 24, no. 16, August 2002 (2002-08),  pages 1379-1383, XP009003775  August, 2002  ISSN: 0141-5492  cited in the application  * page 1380, "CLEAs prepared in the presence of SDS", "CLEAs prepared in the presence of Triton X-100" *  * Figure 1 *  * page 1382, "Effect of additives" : first three paragraphs *  tables 1,2</p> <p style="text-align: center;">--- -/--</p>	1-15

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 088 887 A (DSM NV) 4 April 2001 (2001-04-04) cited in the application ---	
A	WO 02/061067 A (VAN RANTWIJK FREDERIK ;CAO LINQIU (NL); UNIV DELFT TECH (NL); LOPE) 8 August 2002 (2002-08-08) ---	
A	DE 44 19 024 C (INST CHEMO BIOSENSORIK) 19 October 1995 (1995-10-19) -----	

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